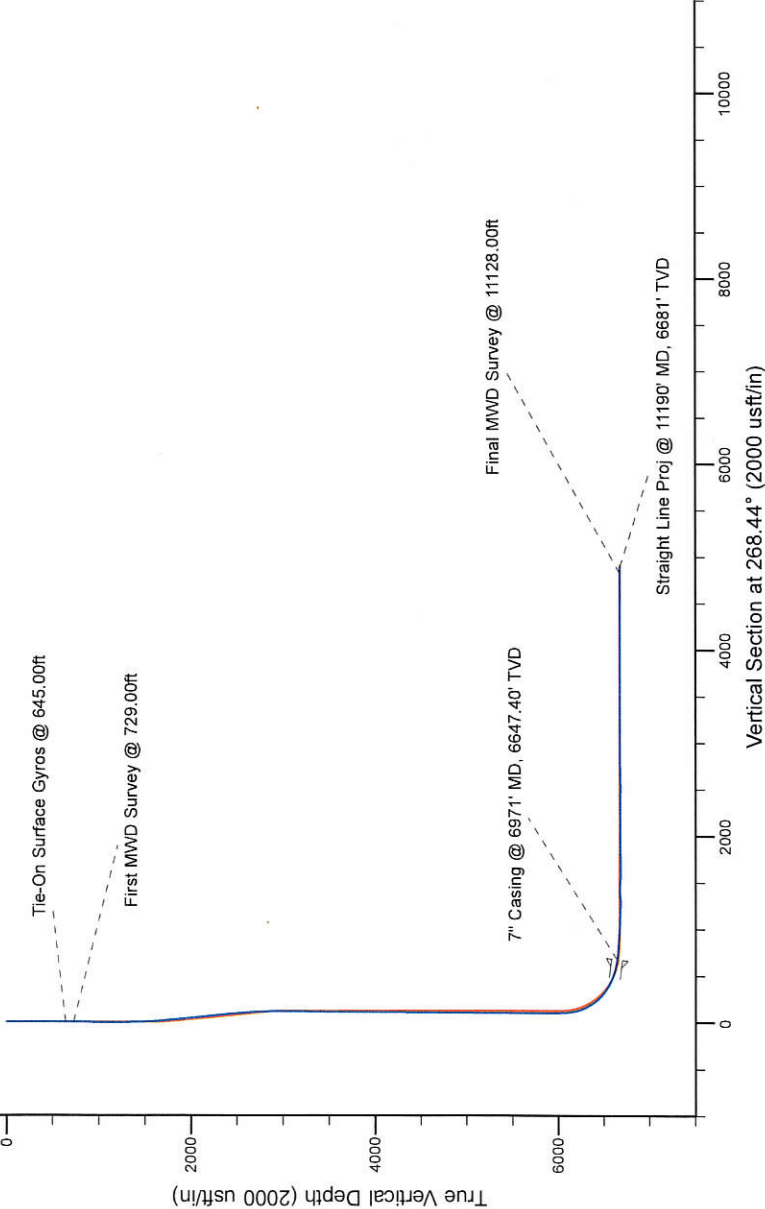
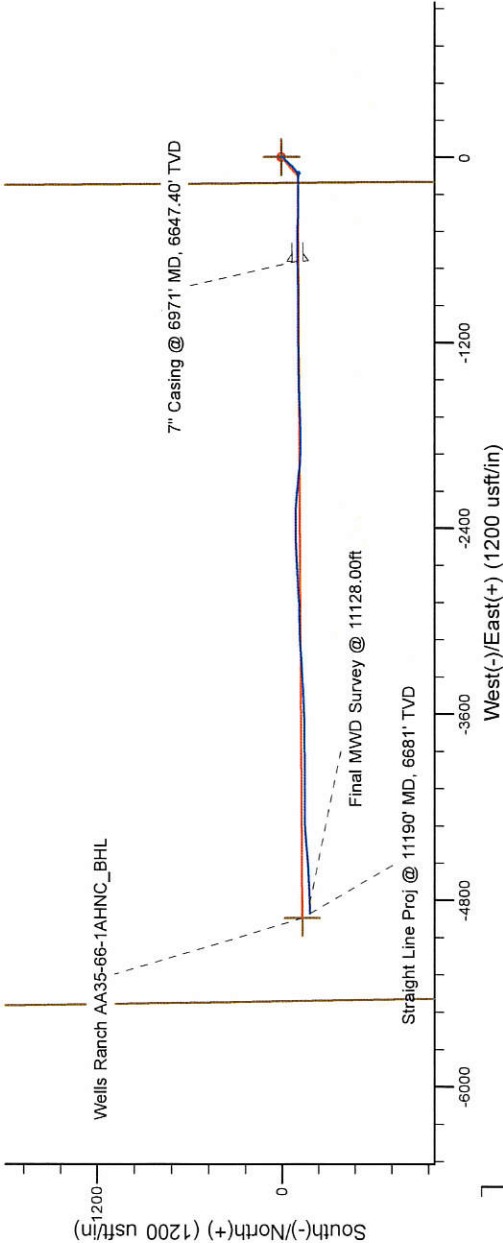


Project: Weld County, CO (NAD 83)
Site: Sec. 36-T6N-R63W (Wells Ranch AA35)
Well: Wells Ranch AA35-66-1AHNC
Wellbore: Plan B
Design: Final Surveys

Noble Energy



LEGEND

- Wells Ranch AA35-66-1AHNC, Plan B, Rev B0 - PROPOSAL V0
- Final Surveys

Platted SHL: 2041' FNL, 168' FWL
Platted Lat/Long: 40.44455 N, 104.39410 W
Location: Sec. 36-T6N-R63W

7" Casing: ~2140.88' FNL, ~506.97' FEL
Lat/Long: 40.444282 N, 104.396524 W
State Planes - CO Northern: 1,406,603.23' N, 3,307,120.88' E
Location: Sec. 35-T6N-R63W

BHL: ~2192.50' FNL, ~561.54' FWL
Lat/Long: 40.444212 N, 104.411662 W
State Planes - CO Northern: 1,406,525.64' N, 3,302,908.18' E
Location: Sec. 35-T6N-R63W

WELL DETAILS: Wells Ranch AA35-66-1AHNC
Ground Level: 4787.00
RKB=24 @ 4811.00usft (H&P 322)

Created By: Fred Hartmann
Created On: 03/25/2014

Noble Energy

Weld County, CO (NAD 83)

Sec. 36-T6N-R63W (Wells Ranch AA35)

Wells Ranch AA35-66-1AHNC

Design: Final Surveys

Sperry Drilling Services

Final Survey Report

25 March, 2014

Well Coordinates: 1,406,709.23 N, 3,307,794.22 E (40° 26' 40.38" N, 104° 23' 38.76" W)

Ground Level: 4,787.00 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Geodetic Scale Factor Applied

Version: 5000.1 Build: 70

Centered on Well Wells Ranch AA35-66-1AHNC

RKB=24 @ 4811.00usft (H&P 322)

N

Grid

Dec-Deg - API - US Survey Feet - Custom

HALLIBURTON

Design Report for Wells Ranch AA35-66-1AHNC - Final Surveys

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) |
|--|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 302.00 | 0.60 | 110.82 | 301.99 | -0.56 | 1.48 | -1.46 | 0.20 |
| 645.00 | 0.50 | 239.02 | 644.99 | -1.97 | 1.87 | -1.82 | 0.29 |
| Tie-On Surface Gyros @ 645.00ft | | | | | | | |
| 729.00 | 0.59 | 233.76 | 728.98 | -2.42 | 1.21 | -1.14 | 0.12 |
| First MWD Survey @ 729.00ft | | | | | | | |
| 822.00 | 0.31 | 229.08 | 821.98 | -2.86 | 0.63 | -0.56 | 0.30 |
| 915.00 | 0.46 | 171.38 | 914.98 | -3.40 | 0.50 | -0.41 | 0.42 |
| 1,008.00 | 0.66 | 211.04 | 1,007.97 | -4.22 | 0.28 | -0.16 | 0.46 |
| 1,101.00 | 0.81 | 226.86 | 1,100.97 | -5.13 | -0.48 | 0.62 | 0.27 |
| 1,194.00 | 0.80 | 199.83 | 1,193.96 | -6.19 | -1.18 | 1.34 | 0.40 |
| 1,287.00 | 0.90 | 214.65 | 1,286.95 | -7.41 | -1.81 | 2.01 | 0.26 |
| 1,380.00 | 1.14 | 212.23 | 1,379.93 | -8.79 | -2.72 | 2.96 | 0.26 |
| 1,473.00 | 1.04 | 212.61 | 1,472.92 | -10.28 | -3.67 | 3.95 | 0.11 |
| 1,568.00 | 3.73 | 224.54 | 1,567.83 | -13.21 | -6.30 | 6.66 | 2.86 |
| 1,663.00 | 5.82 | 229.86 | 1,662.49 | -18.52 | -12.15 | 12.65 | 2.25 |
| 1,758.00 | 6.84 | 233.65 | 1,756.91 | -24.98 | -20.39 | 21.06 | 1.16 |
| 1,852.00 | 7.60 | 218.76 | 1,850.17 | -33.14 | -28.79 | 29.68 | 2.14 |
| 1,947.00 | 8.21 | 226.36 | 1,944.27 | -42.72 | -37.63 | 38.78 | 1.27 |
| 2,042.00 | 7.74 | 219.52 | 2,038.36 | -52.34 | -46.61 | 48.02 | 1.11 |
| 2,137.00 | 7.68 | 217.68 | 2,132.50 | -62.30 | -54.56 | 56.24 | 0.27 |
| 2,231.00 | 9.65 | 227.38 | 2,225.42 | -72.61 | -64.20 | 66.15 | 2.60 |
| 2,326.00 | 7.10 | 229.43 | 2,319.40 | -81.82 | -74.52 | 76.72 | 2.70 |
| 2,421.00 | 7.63 | 231.94 | 2,413.62 | -89.52 | -83.95 | 86.35 | 0.65 |
| 2,516.00 | 6.34 | 239.93 | 2,507.92 | -96.04 | -93.45 | 96.03 | 1.70 |
| 2,610.00 | 4.39 | 238.75 | 2,601.50 | -100.51 | -101.02 | 103.72 | 2.08 |
| 2,705.00 | 3.97 | 231.34 | 2,696.25 | -104.45 | -106.70 | 109.50 | 0.72 |
| 2,800.00 | 3.51 | 237.27 | 2,791.04 | -108.08 | -111.71 | 114.61 | 0.63 |
| 2,895.00 | 1.38 | 243.35 | 2,885.95 | -110.16 | -115.18 | 118.13 | 2.26 |
| 2,990.00 | 1.04 | 12.52 | 2,980.94 | -109.83 | -116.02 | 118.96 | 2.31 |
| 3,085.00 | 0.47 | 111.81 | 3,075.94 | -109.14 | -115.47 | 118.39 | 1.27 |
| 3,180.00 | 0.88 | 143.53 | 3,170.93 | -109.87 | -114.67 | 117.62 | 0.57 |
| 3,274.00 | 1.47 | 115.52 | 3,264.91 | -110.97 | -113.16 | 116.13 | 0.86 |
| 3,369.00 | 1.87 | 104.07 | 3,359.87 | -111.87 | -110.55 | 113.55 | 0.55 |
| 3,464.00 | 0.91 | 83.84 | 3,454.84 | -112.17 | -108.30 | 111.31 | 1.12 |
| 3,558.00 | 0.20 | 178.01 | 3,548.84 | -112.25 | -107.55 | 110.56 | 1.01 |
| 3,653.00 | 0.59 | 157.30 | 3,643.84 | -112.87 | -107.36 | 110.39 | 0.43 |
| 3,748.00 | 0.68 | 202.88 | 3,738.83 | -113.84 | -107.39 | 110.44 | 0.53 |
| 3,843.00 | 0.79 | 188.82 | 3,833.82 | -115.00 | -107.71 | 110.79 | 0.22 |
| 3,938.00 | 0.88 | 199.83 | 3,928.81 | -116.34 | -108.06 | 111.18 | 0.19 |
| 4,127.00 | 0.29 | 135.60 | 4,117.80 | -118.04 | -108.21 | 111.38 | 0.42 |
| 4,223.00 | 0.31 | 23.04 | 4,213.80 | -117.98 | -107.94 | 111.11 | 0.52 |
| 4,318.00 | 1.26 | 9.16 | 4,308.79 | -116.71 | -107.67 | 110.81 | 1.01 |
| 4,413.00 | 1.26 | 37.36 | 4,403.77 | -114.85 | -106.87 | 109.96 | 0.65 |
| 4,603.00 | 0.73 | 83.64 | 4,593.74 | -113.05 | -104.40 | 107.44 | 0.48 |
| 4,697.00 | 0.68 | 147.74 | 4,687.74 | -113.46 | -103.51 | 106.56 | 0.80 |
| 4,792.00 | 0.80 | 113.07 | 4,782.73 | -114.20 | -102.60 | 105.67 | 0.48 |
| 4,886.00 | 1.46 | 76.99 | 4,876.71 | -114.18 | -100.83 | 103.90 | 1.00 |
| 4,981.00 | 1.18 | 85.81 | 4,971.69 | -113.84 | -98.67 | 101.73 | 0.36 |
| 5,076.00 | 0.84 | 55.88 | 5,066.67 | -113.38 | -97.12 | 100.17 | 0.65 |

Design Report for Wells Ranch AA35-66-1AHNC - Final Surveys

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) |
|---|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|
| 5,171.00 | 0.48 | 46.03 | 5,161.67 | -112.71 | -96.26 | 99.29 | 0.40 |
| 5,266.00 | 0.15 | 306.58 | 5,256.67 | -112.36 | -96.07 | 99.09 | 0.55 |
| 5,361.00 | 0.32 | 22.27 | 5,351.67 | -112.04 | -96.07 | 99.08 | 0.33 |
| 5,456.00 | 0.25 | 280.66 | 5,446.66 | -111.76 | -96.18 | 99.18 | 0.47 |
| 5,551.00 | 0.26 | 242.06 | 5,541.66 | -111.82 | -96.57 | 99.57 | 0.18 |
| 5,646.00 | 0.31 | 316.30 | 5,636.66 | -111.74 | -96.94 | 99.94 | 0.36 |
| 5,741.00 | 0.32 | 53.71 | 5,731.66 | -111.39 | -96.90 | 99.89 | 0.50 |
| 5,835.00 | 0.44 | 71.03 | 5,825.66 | -111.12 | -96.35 | 99.33 | 0.18 |
| 5,930.00 | 0.46 | 225.53 | 5,920.66 | -111.27 | -96.28 | 99.27 | 0.92 |
| 5,981.00 | 0.79 | 214.73 | 5,971.66 | -111.70 | -96.62 | 99.62 | 0.68 |
| 6,018.00 | 1.09 | 215.84 | 6,008.65 | -112.20 | -96.97 | 99.99 | 0.81 |
| 6,065.00 | 2.71 | 291.11 | 6,055.63 | -112.16 | -98.27 | 101.29 | 5.64 |
| 6,113.00 | 6.06 | 295.76 | 6,103.48 | -110.65 | -101.61 | 104.58 | 7.01 |
| 6,160.00 | 8.97 | 275.33 | 6,150.08 | -109.23 | -107.50 | 110.43 | 8.31 |
| 6,208.00 | 13.70 | 264.40 | 6,197.14 | -109.44 | -116.89 | 119.82 | 10.78 |
| 6,255.00 | 18.87 | 267.61 | 6,242.24 | -110.30 | -130.03 | 132.98 | 11.16 |
| 6,303.00 | 23.99 | 271.82 | 6,286.91 | -110.31 | -147.55 | 150.50 | 11.13 |
| 6,350.00 | 28.06 | 274.39 | 6,329.13 | -109.16 | -168.13 | 171.04 | 8.98 |
| 6,398.00 | 33.27 | 270.50 | 6,370.41 | -108.18 | -192.57 | 195.44 | 11.61 |
| 6,445.00 | 37.76 | 271.01 | 6,408.66 | -107.81 | -219.87 | 222.72 | 9.57 |
| 6,493.00 | 42.72 | 269.99 | 6,445.29 | -107.56 | -250.86 | 253.69 | 10.42 |
| 6,540.00 | 48.68 | 269.12 | 6,478.10 | -107.83 | -284.48 | 287.31 | 12.75 |
| 6,588.00 | 53.69 | 268.62 | 6,508.17 | -108.57 | -321.86 | 324.70 | 10.47 |
| 6,635.00 | 55.99 | 271.77 | 6,535.24 | -108.43 | -360.28 | 363.09 | 7.35 |
| 6,683.00 | 60.38 | 272.13 | 6,560.54 | -107.04 | -401.03 | 403.79 | 9.17 |
| 6,730.00 | 64.67 | 271.67 | 6,582.22 | -105.66 | -442.70 | 445.41 | 9.17 |
| 6,777.00 | 68.10 | 270.76 | 6,601.05 | -104.75 | -485.75 | 488.41 | 7.51 |
| 6,824.00 | 71.33 | 270.21 | 6,617.34 | -104.38 | -529.82 | 532.47 | 6.96 |
| 6,872.00 | 75.61 | 269.64 | 6,630.99 | -104.44 | -575.83 | 578.46 | 8.99 |
| 6,925.00 | 81.93 | 268.82 | 6,641.31 | -105.15 | -627.78 | 630.41 | 12.02 |
| 6,971.00 | 82.84 | 269.03 | 6,647.40 | -106.00 | -673.37 | 676.00 | 2.03 |
| 7" Casing @ 6971' MD, 6647.40' TVD | | | | | | | |
| 7,144.00 | 86.27 | 269.83 | 6,663.81 | -107.70 | -845.55 | 848.17 | 2.03 |
| 7,239.00 | 85.46 | 268.97 | 6,670.66 | -108.70 | -940.30 | 942.91 | 1.24 |
| 7,334.00 | 87.01 | 269.52 | 6,676.90 | -109.94 | -1,035.08 | 1,037.69 | 1.73 |
| 7,429.00 | 88.34 | 270.34 | 6,680.76 | -110.06 | -1,130.00 | 1,132.57 | 1.64 |
| 7,524.00 | 88.55 | 269.96 | 6,683.33 | -109.81 | -1,224.96 | 1,227.50 | 0.46 |
| 7,619.00 | 92.25 | 269.42 | 6,682.67 | -110.32 | -1,319.94 | 1,322.46 | 3.94 |
| 7,713.00 | 91.11 | 269.78 | 6,679.92 | -110.98 | -1,413.90 | 1,416.39 | 1.27 |
| 7,808.00 | 87.35 | 267.60 | 6,681.19 | -113.15 | -1,508.84 | 1,511.36 | 4.57 |
| 7,903.00 | 90.49 | 267.65 | 6,682.98 | -117.09 | -1,603.73 | 1,606.32 | 3.31 |
| 7,998.00 | 90.06 | 267.73 | 6,682.53 | -120.92 | -1,698.65 | 1,701.31 | 0.46 |
| 8,093.00 | 89.66 | 268.83 | 6,682.76 | -123.77 | -1,793.61 | 1,796.31 | 1.23 |
| 8,188.00 | 89.72 | 271.45 | 6,683.27 | -123.53 | -1,888.60 | 1,891.26 | 2.76 |
| 8,282.00 | 90.03 | 274.86 | 6,683.48 | -118.36 | -1,982.44 | 1,984.93 | 3.64 |
| 8,377.00 | 90.62 | 275.44 | 6,682.94 | -109.83 | -2,077.06 | 2,079.28 | 0.87 |
| 8,472.00 | 90.43 | 275.90 | 6,682.07 | -100.45 | -2,171.59 | 2,173.52 | 0.52 |
| 8,567.00 | 90.25 | 274.13 | 6,681.51 | -92.15 | -2,266.22 | 2,267.89 | 1.87 |
| 8,662.00 | 89.05 | 269.32 | 6,682.09 | -89.29 | -2,361.14 | 2,362.70 | 5.22 |
| 8,757.00 | 91.02 | 268.74 | 6,682.03 | -90.89 | -2,456.13 | 2,457.69 | 2.16 |
| 8,852.00 | 88.83 | 266.77 | 6,682.15 | -94.62 | -2,551.04 | 2,552.67 | 3.10 |

Design Report for Wells Ranch AA35-66-1AHNC - Final Surveys

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) |
|---|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|
| 8,947.00 | 91.54 | 267.59 | 6,681.85 | -99.29 | -2,645.92 | 2,647.64 | 2.98 |
| 9,042.00 | 89.38 | 266.09 | 6,681.08 | -104.52 | -2,740.76 | 2,742.59 | 2.77 |
| 9,137.00 | 90.31 | 267.11 | 6,681.34 | -110.16 | -2,835.59 | 2,837.54 | 1.45 |
| 9,232.00 | 89.69 | 268.60 | 6,681.34 | -113.71 | -2,930.52 | 2,932.53 | 1.70 |
| 9,327.00 | 91.20 | 269.02 | 6,680.60 | -115.69 | -3,025.50 | 3,027.52 | 1.65 |
| 9,421.00 | 89.85 | 267.40 | 6,679.74 | -118.62 | -3,119.44 | 3,121.51 | 2.24 |
| 9,516.00 | 90.71 | 265.95 | 6,679.28 | -124.13 | -3,214.28 | 3,216.46 | 1.77 |
| 9,611.00 | 91.08 | 266.10 | 6,677.79 | -130.72 | -3,309.04 | 3,311.37 | 0.42 |
| 9,706.00 | 89.60 | 266.47 | 6,677.23 | -136.87 | -3,403.83 | 3,406.29 | 1.61 |
| 9,801.00 | 90.00 | 267.39 | 6,677.56 | -141.96 | -3,498.69 | 3,501.26 | 1.06 |
| 9,895.00 | 89.72 | 268.22 | 6,677.79 | -145.56 | -3,592.62 | 3,595.25 | 0.93 |
| 9,990.00 | 90.93 | 269.93 | 6,677.25 | -147.09 | -3,687.60 | 3,690.24 | 2.21 |
| 10,085.00 | 88.49 | 267.87 | 6,677.73 | -148.92 | -3,782.57 | 3,785.22 | 3.36 |
| 10,180.00 | 92.00 | 270.51 | 6,677.33 | -150.26 | -3,877.54 | 3,880.19 | 4.62 |
| 10,275.00 | 90.99 | 270.59 | 6,674.85 | -149.35 | -3,972.50 | 3,975.09 | 1.07 |
| 10,370.00 | 88.27 | 269.55 | 6,675.46 | -149.23 | -4,067.49 | 4,070.04 | 3.07 |
| 10,465.00 | 88.83 | 270.51 | 6,677.86 | -149.18 | -4,162.46 | 4,164.97 | 1.17 |
| 10,560.00 | 89.14 | 269.85 | 6,679.55 | -148.88 | -4,257.44 | 4,259.92 | 0.77 |
| 10,655.00 | 89.48 | 266.00 | 6,680.69 | -152.32 | -4,352.35 | 4,354.89 | 4.07 |
| 10,749.00 | 90.46 | 263.81 | 6,680.74 | -160.67 | -4,445.98 | 4,448.70 | 2.55 |
| 10,844.00 | 90.68 | 266.08 | 6,679.80 | -169.04 | -4,540.60 | 4,543.51 | 2.40 |
| 10,939.00 | 90.40 | 267.34 | 6,678.90 | -174.49 | -4,635.43 | 4,638.46 | 1.36 |
| 11,034.00 | 90.59 | 267.86 | 6,678.08 | -178.47 | -4,730.35 | 4,733.45 | 0.58 |
| 11,128.00 | 88.21 | 268.23 | 6,679.06 | -181.68 | -4,824.28 | 4,827.43 | 2.56 |
| Final MWD Survey @ 11128.00ft | | | | | | | |
| 11,190.00 | 88.21 | 268.23 | 6,681.00 | -183.59 | -4,886.22 | 4,889.40 | 0.00 |
| Straight Line Proj @ 11190' MD, 6681' TVD | | | | | | | |

Design Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
|-----------------------|-----------------------|-------------------|--------------|---|
| | | +N/-S (usft) | +E/-W (usft) | |
| 645.00 | 644.99 | -1.97 | 1.87 | Tie-On Surface Gyros @ 645.00ft |
| 729.00 | 728.98 | -2.42 | 1.21 | First MWD Survey @ 729.00ft |
| 11,128.00 | 6,679.06 | -181.68 | -4,824.28 | Final MWD Survey @ 11128.00ft |
| 11,190.00 | 6,681.00 | -183.59 | -4,886.22 | Straight Line Proj @ 11190' MD, 6681' TVD |

Vertical Section Information

| Angle Type | Target | Azimuth (°) | Origin Type | Origin | | Start TVD (usft) |
|------------|-------------------------------|-------------|-------------|--------------|--------------|------------------|
| | | | | +N/-S (usft) | +E/-W (usft) | |
| Target | Wells Ranch AA35-66-1AHNC_BHL | 268.44 | Slot | 0.00 | 0.00 | 0.00 |

Survey tool program

| From (usft) | To (usft) | Survey/Plan | Survey Tool |
|-------------|-----------|----------------------------|----------------|
| 302.00 | 645.00 | Surface Gyros | Flexi-Shot |
| 729.00 | 6,925.00 | MWD Surveys - Intermediate | MWD+IFR1+MS_WY |
| 7,144.00 | 11,128.00 | MWD Surveys - Production | MWD+IFR1+MS_WY |

Design Report for Wells Ranch AA35-66-1AHNC - Final Surveys

Casing Details

| Measured Depth (usft) | Vertical Depth (usft) | Name | Casing Diameter (") | Hole Diameter (") |
|-----------------------|-----------------------|------------------------------------|---------------------|-------------------|
| 6,971.00 | 6,647.40 | 7" Casing @ 6971' MD, 6647.40' TVD | 7 | 8-3/4 |

Wellbore Targets

| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|--|---------------|--------------|------------|--------------|--------------|-----------------|----------------|--------------|-------------|
| Wells Ranch AA35-66- - actual wellpath misses target center by 0.01usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Point | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 1,406,709.24 | 3,307,794.22 | 40.444550 | -104.394100 |
| Wells Ranch AA35-66- - actual wellpath misses target center by 0.01usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Polygon | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 1,406,709.24 | 3,307,794.22 | 40.444550 | -104.394100 |
| Point 1 | | | | 0.00 | 2,005.36 | -5,480.39 | 1,408,714.52 | 3,302,314.03 | |
| Point 2 | | | | 0.00 | -3,313.05 | -5,401.32 | 1,403,396.31 | 3,302,393.10 | |
| Point 3 | | | | 0.00 | -3,255.33 | -140.35 | 1,403,454.03 | 3,307,653.87 | |
| Point 4 | | | | 0.00 | 2,038.02 | -184.07 | 1,408,747.18 | 3,307,610.16 | |
| Point 5 | | | | 0.00 | 2,005.36 | -5,480.39 | 1,408,714.52 | 3,302,314.03 | |
| Wells Ranch AA35-66- - actual wellpath misses target center by 0.01usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Polygon | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 1,406,709.24 | 3,307,794.22 | 40.444550 | -104.394100 |
| Point 1 | | | | 0.00 | 1,545.34 | -5,020.38 | 1,408,254.52 | 3,302,774.03 | |
| Point 2 | | | | 0.00 | -2,853.03 | -4,941.30 | 1,403,856.31 | 3,302,853.10 | |
| Point 3 | | | | 0.00 | -2,795.31 | -600.37 | 1,403,914.03 | 3,307,193.87 | |
| Point 4 | | | | 0.00 | 1,578.00 | -644.08 | 1,408,287.18 | 3,307,150.16 | |
| Point 5 | | | | 0.00 | 1,545.34 | -5,020.38 | 1,408,254.52 | 3,302,774.03 | |
| Wells Ranch AA35-66- - actual wellpath misses target center by 57.23usft at 11190.00usft MD (6681.00 TVD, -183.59 N, -4886.22 E) - Point | 0.00 | 0.00 | 6,681.58 | -133.66 | -4,914.17 | 1,406,575.57 | 3,302,880.23 | 40.444350 | -104.411760 |

Directional Difficulty Index

| | | | |
|-------------------------------------|----------------|-------------------------------|----------------------------------|
| Average Dogleg over Survey: | 1.97 °/100usft | Maximum Dogleg over Survey: | 12.75 °/100usft at 6,540.00 usft |
| Net Tortousity applicable to Plans: | 1.03 °/100usft | Directional Difficulty Index: | 6.267 |

Audit Info

**North Reference Sheet for Sec. 36-T6N-R63W (Wells Ranch AA35) - Wells Ranch
AA35-66-1AHNC**

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to RKB=24 @ 4811.00usft (H&P 322). Northing and Easting are relative to Wells Ranch AA35-66-1AHNC

Coordinate System is US State Plane 1983, Colorado Northern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is -105.500000°, Longitude Origin:0.000000°, Latitude Origin:40.783333°

False Easting: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99996255

Grid Coordinates of Well: 1,406,709.23 usft N, 3,307,794.22 usft E

Geographical Coordinates of Well: 40° 26' 40.38" N, 104° 23' 38.76" W

Grid Convergence at Surface is: 0.71°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,190.00usft
the Bottom Hole Displacement is 4,889.67usft in the Direction of 267.85° (Grid).

Magnetic Convergence at surface is: -7.62° (17 March 2014, , BGGM2013)

